

Notice of Allowability

Application No.

10/807,457

Examiner

David D. Le

Applicant(s)

CHONAN ET AL.

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3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 22 November 2006.
2. ☒ The allowed claim(s) is/are 1,3-9,12 and 14-22.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

1. This is the fourth Office action on the merits of Application No. 10/807,457, filed on 24 March 2004. Claims 1 and 3-9, 12 and 14-22 are pending.

Documents

2. The following documents have been received and filed as part of the patent application:
 - Foreign Priority Document, received on 03/24/04
 - Information Disclosure Statement, received on 03/24/05
 - Information Disclosure Statement, received on 06/17/04
 - Declaration, received on 06/17/04
 - Power of Attorney, received on 09/15/04
 - Information Disclosure Statement, received on 02/21/06
 - Information Disclosure Statement, received on 7/17/06

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicants' attorney, Dennis C. Rodgers, on 15 March 2007.

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The application has been amended as follows:

Claim 1:

Claim 1 has been rewritten as follows:

--A power transmission system of an engine for transmitting engine power to a driving wheel, said power transmission system comprising:

a crankshaft driven by the engine, said crankshaft being arranged in a vehicle body in a widthwise direction of the vehicle body;

a sub-shaft which is arranged parallel to said crankshaft and non-concentric with the crankshaft and to which the rotation of said crankshaft is transmitted via a rotary transmission member; and

a belt type continuously variable transmission including a primary shaft and a secondary shaft, said primary shaft being arranged concentrically with said sub-shaft and provided with a primary pulley having a variable groove width; said secondary shaft provided with a secondary pulley coupled to said primary pulley via a belt and having a variable groove width,

wherein the rotation of said crankshaft is transmitted to said primary shaft via said sub-shaft, and said crankshaft is arranged parallel to said primary shaft, and

a clutch member is arranged between said sub-shaft and said primary shaft and, relative to a lineal frame of reference extending in common with a rotation axis of said sub-shaft, said clutch member is disposed along said sub-shaft between said primary pulley and a drive engagement location of said rotary transmission member with said sub-shaft.--

Claim 9:

Claim 9 has been rewritten as follows:

--A power transmission system of an engine for transmitting engine power to a driving wheel, said power transmission system comprising:

a crankshaft driven by the engine, said crankshaft being arranged in a vehicle body in a widthwise direction of the vehicle body;

a sub-shaft which is arranged parallel to said crankshaft and non-concentric with the crankshaft and to which the rotation of said crankshaft is transmitted via a rotary transmission member; and

a belt type continuously variable transmission including a primary shaft and a secondary shaft, said primary shaft being arranged concentrically with said sub-shaft and provided with a primary pulley having a variable groove width; said secondary shaft provided with a secondary pulley coupled to said primary pulley via a belt and having a variable groove width, wherein the rotation of said crankshaft is transmitted to said primary shaft via said sub-shaft, and said crankshaft is arranged parallel to said primary shaft,

a clutch member is arranged between said sub-shaft and said primary shaft, and wherein said clutch member is a centrifugal clutch.--

Claim 12:

Claim 12 has been rewritten as follows:

--A power transmission system of an engine for transmitting engine power to a driving wheel, said power transmission system comprising:

a crankshaft driven by the engine, said crankshaft being arranged in a vehicle body in a widthwise direction of the vehicle body;

a sub-shaft which is arranged parallel to said crankshaft and non-concentric with the crankshaft and to which the rotation of said crankshaft is transmitted via a rotary transmission member; and

a belt type continuously variable transmission including a primary shaft and a secondary shaft, said primary shaft being arranged concentrically with said sub-shaft and provided with a primary pulley having a variable groove width; said secondary shaft provided with a secondary pulley coupled to said primary pulley via a belt and having a variable groove width,

wherein the rotation of said crankshaft is transmitted to said primary shaft via said sub-shaft, and said crankshaft is arranged parallel to said primary shaft,

a clutch member is arranged between said sub-shaft and said primary shaft and, relative to a lineal frame of reference extending in common with a rotation axis of said sub-shaft, said clutch member is disposed along said sub-shaft between said primary pulley and a drive engagement location of said rotary transmission member with said sub-shaft, and

said sub-shaft is mounted with a recoil starter.--

Claim 17:

Claim 17 has been rewritten as follows:

--The power transmission system of an engine according to claim 1, wherein said clutch transmits and interrupts the rotation of said sub-shaft to said primary shaft.--

Claim 18:

Claim 18 has been rewritten as follows:

--The power transmission system of an engine according to claim 12, wherein said clutch transmits and interrupts the rotation of said sub-shaft to said primary shaft.--

Claim 19:

Claim 19 has been rewritten as follows:

--A power transmission system of an engine for transmitting engine power to a driving wheel, said power transmission system comprising:

a crankshaft driven by the engine, said crankshaft being arranged in a vehicle body in a widthwise direction of the vehicle body;

a sub-shaft which is arranged parallel to said crankshaft and non-concentric with the crankshaft and to which the rotation of said crankshaft is transmitted via a rotary transmission member; and

a belt type continuously variable transmission including a primary shaft and a secondary shaft, said primary shaft being arranged concentrically with said sub-shaft and

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provided with a primary pulley having a variable groove width; said secondary shaft provided with a secondary pulley coupled to said primary pulley via a belt and having a variable groove width, wherein the rotation of said crankshaft is transmitted to said primary shaft via said sub-shaft, and said crankshaft is arranged parallel to said primary shaft,

a clutch member is arranged between said sub-shaft and said primary shaft, and wherein, relative to a lineal frame of reference extending in common with a rotation axis of said sub-shaft, there is lacking an overlap between said sub-shaft and said primary shaft.--

Claim 20:

Claim 20 has been rewritten as follows:

--The power transmission system of an engine according to claim 12, wherein, relative to said lineal frame of reference extending in common with a rotation axis of said sub-shaft, there is lacking an overlap between said sub-shaft and said primary shaft.--

Claim 22:

Claim 22 has been rewritten as follows:

--A power transmission system of an engine for transmitting engine power to a driving wheel, said power transmission system comprising:

a crankshaft driven by the engine, said crankshaft being arranged in a vehicle body in a widthwise direction of the vehicle body;

a sub-shaft which is arranged parallel to said crankshaft and non-concentric with the crankshaft and to which the rotation of said crankshaft is transmitted via a rotary transmission member; and

a belt type continuously variable transmission including a primary shaft and a secondary shaft, said primary shaft being arranged concentrically with said sub-shaft and provided with a primary pulley having a variable groove width; said secondary shaft provided with a secondary pulley coupled to said primary pulley via a belt and having a variable groove width,

wherein the rotation of said crankshaft is transmitted to said primary shaft via said sub-shaft, and said crankshaft is arranged parallel to said primary shaft,

a clutch member is arranged between said sub-shaft and said primary shaft, and said sub-shaft is mounted with a recoil starter, and

wherein said clutch member is a centrifugal clutch that has a casing that is secured to an interior end of said primary shaft and extends around and past in overlapping fashion an opposing, interior end of said sub-shaft.--

Allowable Subject Matter

4. Claims 1, 3-9, 12, and 14-22 are allowed.

5. The following is an examiner's statement of reasons for allowance:

Claim 1:

The prior art of record fails to show or render obvious a power transmission system comprising a crankshaft, a sub-shaft, a belt type continuously variable transmission, a primary shaft, a secondary shaft, a primary pulley, a secondary pulley, a belt, a rotary transmission member and a clutch member, as recited in the claim; specifically, wherein the clutch member is arranged between the sub-shaft and the primary shaft and relative to a lineal frame of reference extending in common with the rotation axis of the sub-shaft; and the clutch member is disposed along the sub-shaft between the primary pulley and the drive engagement location of the rotary transmission member with the sub-shaft.

Claim 9:

The prior art of record fails to show or render obvious a power transmission system comprising a crankshaft, a sub-shaft, a belt type continuously variable transmission, a primary shaft, a secondary shaft, a primary pulley, a secondary pulley, a belt, a rotary transmission member and a clutch member, as recited in the claim; specifically, wherein the clutch member is a centrifugal clutch.

Claim 12:

The prior art of record fails to show or render obvious a power transmission system comprising a crankshaft, a sub-shaft, a belt type continuously variable

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transmission, a primary shaft, a secondary shaft, a primary pulley, a secondary pulley, a belt, a rotary transmission member, a recoil starter and a clutch member, as recited in the claim; specifically, wherein the clutch member is arranged between the sub-shaft and the primary shaft and relative to a lineal frame of reference extending in common with the rotation axis of the sub-shaft; and the clutch member is disposed along the sub-shaft between the primary pulley and the drive engagement location of the rotary transmission member with the sub-shaft.

Claim 19:

The prior art of record fails to show or render obvious a power transmission system comprising a crankshaft, a sub-shaft, a belt type continuously variable transmission, a primary shaft, a secondary shaft, a primary pulley, a secondary pulley, a belt, a rotary transmission member and a clutch member, as recited in the claim; specifically, wherein, relative to a lineal frame of reference extending in common with a rotation axis of the sub-shaft, there is lacking an overlap between the sub-shaft and the primary shaft.

Claim 22:

The prior art of record fails to show or render obvious a power transmission system comprising a crankshaft, a sub-shaft, a belt type continuously variable transmission, a primary shaft, a secondary shaft, a primary pulley, a secondary pulley, a belt, a rotary transmission member, a recoil starter and a clutch member, as recited in the

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claim; specifically, wherein the clutch member is a centrifugal clutch that has a casing that is secured to an interior end of the primary shaft and extends around and past in overlapping an opposing, interior end of the sub-shaft.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

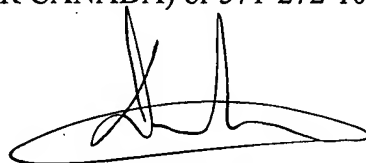
- Hattori (U. S. Patent No. 4,530,256) teaches a transmission, as shown in Fig. 1.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 571-272-7092. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'David D. Le', is written over a horizontal line.

David D. Le
Examiner
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03/15/2007

ddl